ZEKTOR™

DVS5.1

DVI Video / Audio Switch

Owner's Manual

www.zektor.com

Rev: 2 01/19/05

Important Safety Instructions!

Read all instructions for prior to installation of your product.

Retain this User's Manual for future reference.

Adhere to all safety and operation instructions.

Before cleaning this product, unplug from the wall outlet. Do not use liquid cleaning products. Use a damp cloth for cleaning.

Do not use this product on an unstable cart, stand, or table. The product may fall, causing serious injury to a child, and serious damage to the product. Ensure that any attached cables cannot be tripped over.

This product is supplied with a UL Class 2 power supply as indicated on the product packaging. Use this product only with the supplied power supply. If you are unsure about the type of AC power in your home, consult your product dealer or a local power company.

Power cords should be routed so they will not be stepped on or rolled over.

If your product is not operating properly, do not attempt to service this product yourself. Refer to a qualified service personnel.

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A DVS5.1 Overview

A Description of the DVS5.1

The DVS5.1 is a 5 input, Digital Audio / DVI video switch.

Channel selection can be done using front panel buttons, or by using any user supplied, standard or programmable, IR remote control.

Also available is an optional RS-232 module allowing extended control of the DVS5.1 using a standard serial port. The RS-232 module must be purchased separately.

Features

The DVS5.1 is a DVI-D only switch. This means it will pass digital video signals, but not the analog video signals that are present with DVI-A or DVI-I. The rear panel connectors can accept any type of cable for your convenience.

The DVS5.1 is designed to work with your HDCP encryption compliant devices. When the DVS5.1 is switched to a source with HDCP enabled encryption, the DVS5.1 will pass all the encryption communications to your HDCP compliant display. If you display is not capable of HDCP, the DVS5.1 will not decrypt the video for your display. To use HDCP, both the source and your display must be HDCP compliant. The typical results of non-compliant equipment will be total video noise, or video snow picture, with no other picture visible.

Video inputs are capable of DVI video ranging from 480p to 1080i, plus computer modes up to 1600x1200.

Inputs 1 through 4 are capable of digital audio from SPDIF digital coax as well as Toslink optical audio, while input 5 is limited to SPDIF digital coax only. Optical and Coax are both automatically converted. When either input is active, digital audio is available on both types of outputs. Do not connect both types to a single input channel or that channel will not pass digital audio.

Your DVS5.1 Purchase Includes:

- The DVS5.1.
- A 9VDC, 1.1A A.C. Adapter.
- The DVS5.1 Owners Manual.

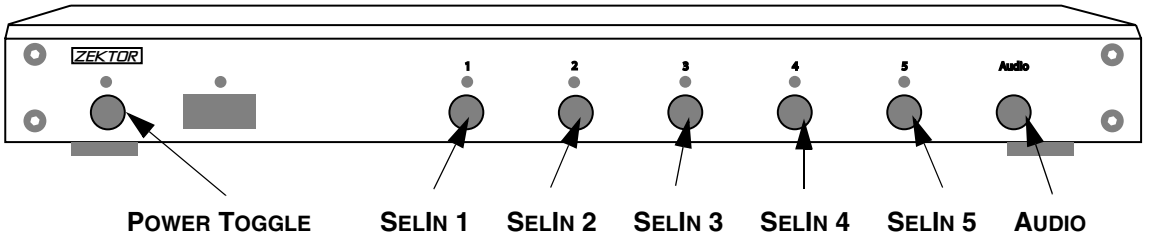
Front Panel Operations

Operating the DVS5.1 is straight forward and is simply a matter of plugging the DVS5.1's power supply into an available A.C. outlet, and then plugging the DVS5.1's power supply into the back of the DVS5.1.

To operate the DVS5.1 manually, press the power button, located on the very left of the DVS5.1, to cycle power.

Press any one of the five input select buttons to switch the DVS5.1 to the selected input.

If the DVS5.1's power is turned off, selecting any one of the five inputs will cause the DVS5.1 to power on and switch to the selected input.

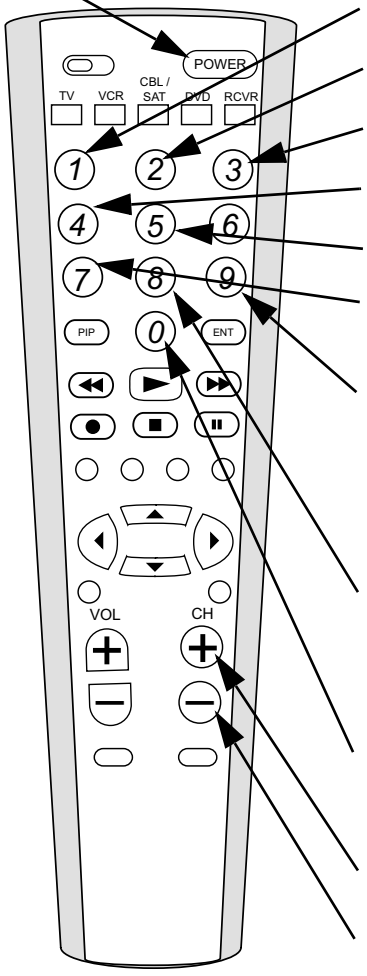


- **POWER TOGGLE**. Pressing this button will cycle power from on to off, and off to on.
- **SELECTIN1**. Pressing this button will select input 1 of the DVS5.1's inputs. If power is off when this button is pressed, then the DVS5.1 will power on, and select input 1.
- **SELECTIN2**. Pressing this button will select input 2 of the DVS5.1's inputs. If power is off when this button is pressed, then the DVS5.1 will power on, and select input 2.
- **SELECTIN3**. Pressing this button will select input 3 of the DVS5.1's inputs. If power is off when this button is pressed, then the DVS5.1 will power on, and select input 3.
- **SELECTIN4**. Pressing this button will select input 4 of the DVS5.1's inputs. If power is off when this button is pressed, then the DVS5.1 will power on, and select input 4.
- **SELECTIN5**. Pressing this button will select input 5 of the DVS5.1's inputs. If power is off when this button is pressed, then the DVS5.1 will power on, and select input 5.
- **AUDIOBREAK**. Pressing this button allows the audio to be switched, separately from the video signal. When this button is pressed, the IR LED will light up. If a **SELECTIN** button is pressed within 8 seconds, only the audio will be switched. The LEDs from both the video source and audio source will light to indicate the audio break away mode of operation. If a **SELECTIN** button is not pressed within 8 seconds, or the **AUDIOBREAK** button is pressed again, the IR LED will extinguish and the DVS5.1 will return to the normal switch mode.

Using the DVS5.1 with a Remote Control

Remote operations of the DVS5.1 are accomplished through the use of just about any remote control. *A remote control is not supplied with the DVS5.1,* yet the versatile programming modes of the DVS5.1 allows the DVS5.1 to work with virtually any remote control. The next section *"Programming your Remote Control"* on page 7, describes how to setup your remote control. After your remote control is programmed, the following describes the pre-programmed functions of the DVS5.1.

There are 12 separate remote controlled commands understood by the DVS5.1. They are:



- **POWERTOGGLE**.The DVS5.1 can be toggled from standby to power on, and back to standby using a single button of the remote.
- **SELECTIN1**. Select input 1. If the DVS5.1 is in standby mode, it will power on and then select input 1.
- **SELECTIN2**. Select input 2. If the DVS5.1 is in standby mode, it will power on and then select input 2.
- **SELECTIN3**. Select input 3. If the DVS5.1 is in standby mode, it will power on and then select input 3.
- **SELECTIN4**. Select input 4. If the DVS5.1 is in standby mode, it will power on and then select input 4.
- **SELECTIN5**. Select input 5. If the DVS5.1 is in standby mode, it will power on and then select input 5.
- **AUDIOBREAK**. Audio break away select key. Pressing the **AUDIOBREAK** key, followed by any of the **SELECTIN** keys, will switch only the audio stream.
- **POWEROFF**. The DVS5.1 can be set to standby mode by pressing a single button of the remote. Once the DVS5.1 is in standby mode, further presses of the **POWEROFF** button will be ignored. This command is useful when using the “macro” feature of some programmable remote controls, and is used when it is unknown whether or not the DVS5.1 is already in standby mode.
- **POWERON**. The DVS5.1 can be powered on from standby by pressing a single button of the remote. Once the DVS5.1 is powered on, further presses of the **POWERON** button will be ignored. This command is useful when using remote controls that allow “macro” programming, where it is unknown whether or not the DVS5.1 is already powered on.
- **SETDIMMODE**. Toggles through three different bright/dim display modes. They are: Bright all the time. Dim all the time. Bright for 4 seconds after any keypress, and then automatically dim.
- **SELECT+**. Select the next higher input. If input 5 is currently selected, then this command will cause input 1 to be selected.
- **SELECT-**. Select the next lower input. If input 1 is currently selected, then this command will cause input 5 to be selected.

Programming your Remote Control

Setting up your Universal Remote Control

For remote control operations, the DVS5.1 requires either a universal remote control to be programmed as one of eight pre-programmed devices. Or, alternatively, the DVS5.1 can be taught to use most existing remote controls.

The simplest way to begin using the DVS5.1 is to program your Universal Remote control to act like the remote used to control a Awia DVD. Once this is done you will be able to immediately start using your DVS5.1.

Check your remote's user manual for instructions on programming your remote control.

The following table shows the Awia DVD codes for a few different brands of Universal Remote Controllers:

Make	Device	Code
Sony	DVD	015
One For All	DVD	0641
GE / RCA	DVD	350
Home Theater Master URC100 URC200 URC300	DVD	146
Sony RM-AV3000	DVD	0015

Using Alternate Remote Codes

Using Alternate Component Keys on your Remote

The DVS5.1 will also respond to alternate component key codes. Allowing you to use an unused TV, VCR, RCVR or one of the added AUX positions many remotes include.

Setting up the DVS5.1 to respond to alternate component codes is a two step process. You must first program your universal remote control to behave as one of the alternate components. You must then configure the DVS5.1 to respond to the alternate component codes.

Programming your remote to different components

The DVS5.1 will respond to eight different pre-programmed component codes. They are: Awia DVD, Yamaha VCR, Hitachi Satellite, Sony TV, Go Video VCR, Nakamichi Receiver, Jerrold Cable Box and a Symphonic TV. The following table shows the different component buttons and codes used to program a few different universal remotes.

Make	Device	Sony	One For All	Sanyo	RCA	Zenith	X10
Awia	DVD	015	0641	N/A	350	N/A	N/A
Yamaha	VCR	040	0038	238	009	025	022
Symphonic	TV	023	0171	104	189	520	202
Sony	TV	001	0000	110	002	708	015
Hitachi	SAT	N/A	0819	N/A	084	N/A	N/A
Go Video	VCR	N/A	0432	248	138	139	013
Jerrold	CBL	001	0476	303	046	552	062

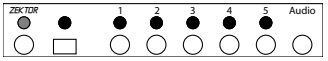
If your remote control's model matches one of the above, read your remote's user manual for instructions on programming your remote control. Then use the above device and manufacturer codes to setup your remote.

If your remote is not included in the above list, or the manufacturer code given does not work, then you will have to follow your remote controls instructions for programming one of the above components and search for a proper match. See the next section. Or teach the DVS5.1 a new set of codes, See: *"Learning New Remote Codes"* on page 10.

Configuring the DVS5.1 for an alternate component code

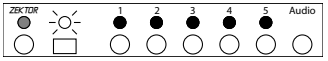
After your remote control has been programmed to act like one of the 8 built in code-sets, teaching the DVS5.1 to use the new code set is simple.

STEP 1



1 Place the DVS5.1 in standby mode by pressing the power button if needed. At this point only the power indicator should be glowing red.

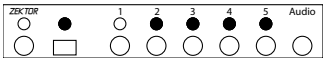
STEP 2



2 On your remote control press the buttons in the following sequence. After each button press verify that the remote IR indicator flashes. *If you make a mistake, you can start over by pressing* **POWERTOGGLE** *twice*.:

- **POWERTOGGLE**
- **SELECTIN+**
- **POWERTOGGLE**
- **SELECTIN-**

STEP 3



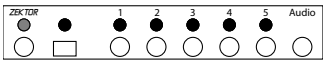
3 The DVS5.1 will power up indicating the new component codes have been accepted.

Searching for a component code in your remote

Assuming you do not have a remote listed in this user manual you will have to follow your remote control's programming sequences to find a compatible component that the DVS5.1 understands. Or you can also go to the section *"Learning New Remote Codes"* on page 10, to teach the DVS5.1 new keys for individual commands.

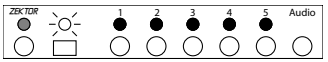
To search for compatible component codes you must place the DVS5.1 in standby mode and try manufacturer codes in your remote control until one of them causes the DVS5.1's IR indicator LED to flash.

STEP 1



1 Place the DVS5.1 in standby mode by pressing the power button if needed. At this point only the power indicator should be glowing red.

STEP 2



2 Try different manufacturer codes until one of them causes the IR indicator light on the DVS5.1 to blink when pressing the **POWERTOGGLE** key. When found, go to back to *"Using Alternate Remote Codes"* on page 8, to teach the DVS5.1 to use the new component code.

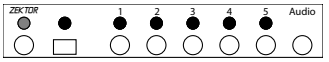
Learning New Remote Codes

Teaching the DVS5.1 to use learned remote control keys

If your remote does not have one of the pre-programmed component codes, or you simply want to re-map the DVS5.1 functions to other keys on your remote, the DVS5.1 can be taught to use new keys.

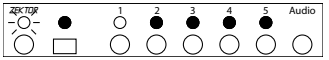
To teach the DVS5.1 to respond to new keys, you need to have the remote control you want to use ready, and setup in the manner you want it to be used.

STEP 1

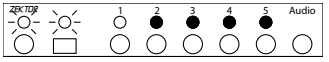


1 Place the DVS5.1 in standby mode by pressing the power button if needed. At this point only the power indicator should be glowing red.

STEP 2



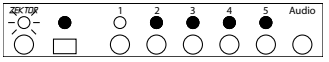
2 Using a pen or pencil, press and HOLD the SETUP button on the back panel of the DVS5.1 (located near the power jack) for around 4 seconds until the DVS5.1 powers up, and the Power indicator on the front panel of the DVS5.1 will turn GREEN and begin to blink RED.



The DVS5.1 is now ready to accept new remote control key codes. For each of the following steps:

- You may press a key on your Remote Control. If accepted, the IR indicator light will blink, and the key will be learned as the new key for the given function. The DVS5.1 will advance to the next step.
- Or you may press and release the SETUP key on the back panel of the DVS5.1. This indicates to the DVS5.1 to skip this key. The code previously programmed for this key will be retained. The DVS5.1 will advance to the next key.
- Or you may press and hold the SETUP key on the back panel until the DVS5.1 returns to standby mode. This will end learn mode. All keys already programmed will be remembered, and all the keys skipped will retain their previously programmed values. The DVS5.1 will advance to Step 13.

STEP 3

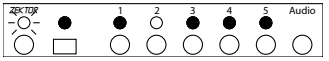


1 BLINK

3 The Power indicator blinks slowly, and input 1 is selected.

Press the key on your remote that you want to use as the new key for **SELECTIN1**.

STEP 4

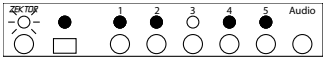


1 BLINK

4 The Power indicator blinks slowly, and input 2 is selected.

Press the key on your remote that you want to use as the new key for **SELECTIN2**.

STEP 5

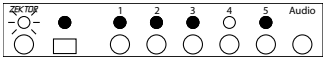


1 BLINK

5 The Power indicator blinks slowly, and input 3 is selected.

Press the key on your remote that you want to use as the new key for **SELECTIN3**.

STEP 6

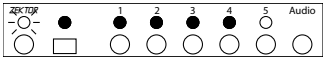


1 BLINK

6 The Power indicator blinks slowly, and input 4 is selected.

Press the key on your remote that you want to use as the new key for **SELECTIN4**.

STEP 7

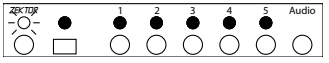


1 BLINK

7 The Power indicator blinks slowly, and input 5 is selected.

Press the key on your remote that you want to use as the new key for **SELECTIN5**.

STEP 8

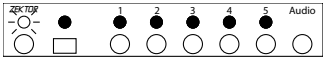


2 BLINKS

8 After a pause, the Power indicator blinks 2 times, and repeats.

Press the key on your remote that you want to use as the new key for **AUDIOBREAK**.

STEP 9

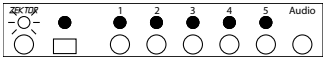


3 BLINKS

9 After a pause, the Power indicator blinks 3 times, and repeats.

Press the key on your remote that you want to use as the new key for **POWERTOGGLE**.

STEP 10

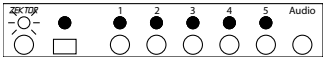


4 BLINKS

10 After a pause, the Power indicator blinks 4 times, and repeats.

Press the key on your remote that you want to use as the new key for **SELECTIN-**.

STEP 11

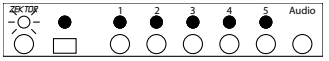


5 BLINKS

11 After a pause, the Power indicator blinks 5 times, and repeats.

Press the key on your remote that you want to use as the new key for **SELECTIN+**.

STEP 12

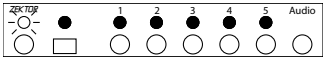


6 BLINKS

12 After a pause, the Power indicator blinks 6 times, and repeats.

Press the key on your remote that you want to use as the new key for **SETDIMMODE**.

STEP 13

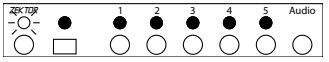


7 BLINKS

13 After a pause, the Power indicator blinks 7 times, and repeats.

Press the key on your remote that you want to use as the new key for **POWERON**.

STEP 14

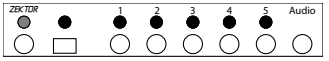


8 BLINKS

14 After a pause, the Power indicator blinks 8 times, and repeats.

Press the key on your remote that you want to use as the new key for **POWEROFF**.

STEP 15



15 The DVS5.1 will return to the standby mode indicating a return to normal operations. The newly programmed codes will now operate your DVS5.1.

Remote Control Learning Caveats

Some component's control codes will work better than others. We've designed the DVS5.1 to work with a great majority of codes, however a few brands use non-standard ways of transmitting their component's codes that may not be compatible with the DVS5.1. In these somewhat rare circumstances you will have to program your remote control to a different manufacturer's code, and/or use different buttons on your remote.

When programming the DVS5.1, if the IR indicator light blinks, and the DVS5.1 moves on to the next step, then the remote controller's key code has been accepted. If the IR indicator does not blink, it indicates the DVS5.1 does not understand that particular manufactures code and you will have to choose another.

In some cases the remote key code will be accepted. However, the range will be limited. If the range of a programmed key is unacceptable, you will have to choose a different manufacturer and try again.

Bright / Dim / Auto-dimming Modes

Setting the Display intensity modes of the DVS5.1

The front panel display of the DVS5.1 can be set to Bright, Dim or an Auto-dimming mode where the display brightens for 4 seconds after any function is selected and then auto-dims.

Setting the mode is simply a matter of toggling between the three modes:

- Bright Mode. When pressing the **SETDIMMODE** key to toggle to this state, the display will turn bright and remain that way.
- Dim Mode. When pressing the **SETDIMMODE** key to toggle to the Dim mode, the display will go dim and remain that way.
- Auto-dimming Mode. When pressing the **SETDIMMODE** key to toggle to the Auto-dimming mode, the display will turn bright, then flash to dim, then flash back to bright, indicating the Auto-dimming mode has been selected. After 4 seconds of no activity, the display will smoothly dim to the dim setting.

Setting Power On Defaults

The DVS5.1 power on default mode

When toggling between Standby mode and PowerOn, the DVS5.1 will remember all it's current settings. After completely powering down the DVS5.1 (by unplugging the AC wall adapter), upon restoring power (by plugging the AC wall adapter back in), it will power up in a user settable default mode. This is useful in situations where the DVS5.1 is externally switched by a power strip.

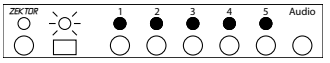
The factory default settings for initial power on are:

- Initially power up in Standby mode.
- Input 1 will be selected when **POWERTOGGLE** button pressed.
- Auto-dimming mode selected.

Changing the DVS5.1 power on defaults

Teaching the DVS5.1 new power on default settings consists of placing the DVS5.1 in the preferred initial power on mode, and pressing and releasing the SETUP button on the back panel of the DVS5.1.

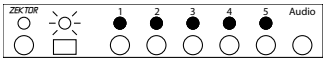
STEP 1



1 Select an initial power on input.

Using the **SELECTIN1** - **SELECTIN5** keys, or the **SELECT+** or **SELECT-** keys, choose the desired power on default input.

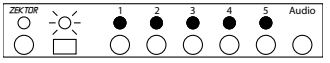
STEP 2



2 Select the initial Bright / Dim / Auto-dimming mode.

Using the **SETDIMMODE** key, choose the desired power on default Bright / Dim / Auto-dimming mode.

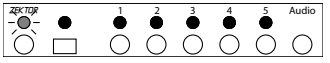
STEP 3



3 Select the initial power mode, Standby or Powered on.

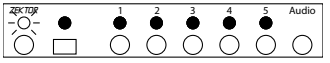
Using the **POWERTOGGLE**, **POWERON** or **POWEROFF** keys, choose the initial power on mode.

STEP 4



4 Press and release the **SETUP** button located on the back panel of the DVS5.1. The power indicator light on the DVS5.1 will blink once to indicate the new power on settings have been saved.

or



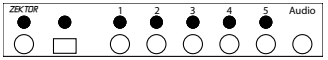
The previous picture shows the default power up mode, as being set to the standby mode. It may also be set to the power on mode, by pressing and releasing the setup key while power is on, as shown here.

Restoring the DVS5.1 to Factory Defaults

Restoring the DVS5.1 to the factory defaults

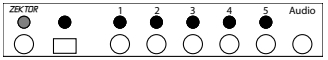
Resetting the DVS5.1 to the factory defaults is done by removing power to the DVS5.1. The AC wall adapter must be unplugged, so that the DVS5.1 is completely without power. The **SETUP** key is then pressed and *held* while power is restored to the DVS5.1. After about three seconds the power indicator will flash three times indicating the DVS5.1 has been reset to factory defaults.

STEP 1



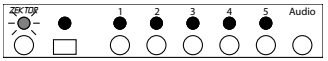
1 Remove all power from the DVS5.1. This can be done by unplugging the AC wall adapter from the back of the DVS5.1, or unplugging the AC adapter from the wall, or by using a switched power strip. Nothing should be lit on the DVS5.1.

STEP 2



2 Using a pen or pencil, press AND HOLD the **SETUP** button on the back panel of the DVS5.1. While continuing to HOLD the **SETUP** button, reapply power to the DVS5.1. When power is applied, the power indicator light will light up indicating standby mode.

STEP 3

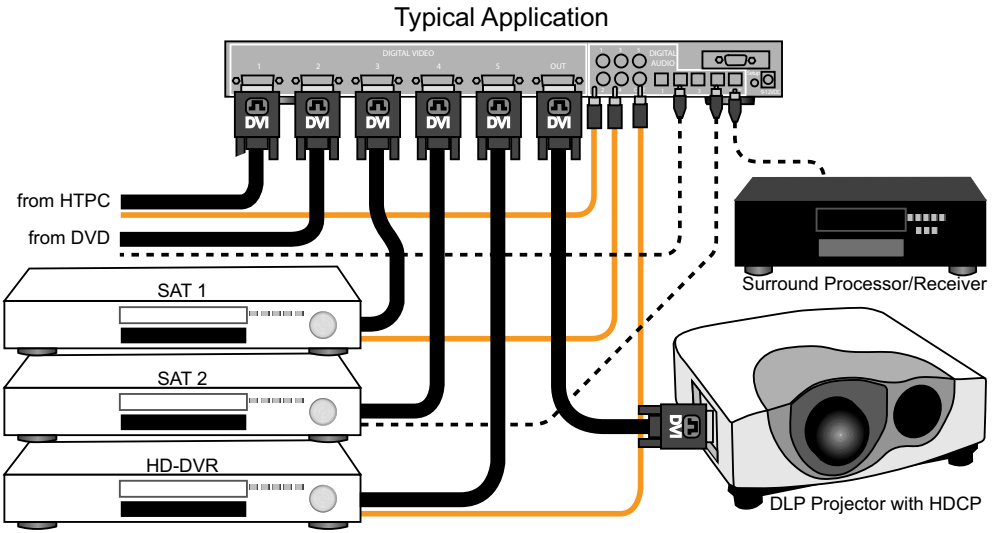


3 Continue to HOLD the **SETUP** key and after about three seconds the power indicator will blink three times indicating the DVS5.1 has been reset to its factory defaults.

The DVS5.1 factory defaults, are:

- Control codes used are the Awia DVD codes.
- Default power up mode is standby.
- Default selected input when powered on is input 1.
- Default brightness mode is Auto-dimming.

Typical Application



The above example shows DVS5.1 setup to select between 5 different DVI devices.

The DVI output is connected to a DLP projector, and the audio out is connected to a Surround Sound Processor.

Typical Applications (Cont'd)

Some Notes on DVI Cable Lengths

DVI cables vary greatly in quality, and as a result, the maximum length of the DVI cable will vary. Using high quality cables, it is possible to extend to lengths as long as 50 feet. Low quality cables may fail at lengths as short as 6 feet. Cable failures are typically seen as sparkles or random dots in the video. Contact your Zektor dealer for recommendations on cable brands.

Rack Mounting

The DVS5.1 can be mounted in a standard 19" equipment rack with the optional rack mount kit. In addition to installing the rack mount ears to the side of the DVS5.1, you will have to remove the feet from the bottom of the switch. To remove the feet, peel back the felt pads, and remove the screw from each foot. After the feet are removed, the DVS5.1 will be exactly 1 rack unit tall.

Warranty Information

Warranty Policy

ZEKTOR, LLC warrants this product against defects in material and workmanship under normal use and service for one year from the original date of purchase. ZEKTOR, at its option, shall repair or replace the defective unit covered by this warranty.

In order to keep this warranty in effect, the product must have been handled and used as prescribed in the instructions accompanying this warranty. This warranty does not cover any damage due to accident, misuse, abuse, or negligence. This warranty is valid only if the product is used as specified in the product documentation.

Repair or replacement, as provided under this warranty, is your exclusive remedy. ZEKTOR shall not be liable for any incidental or consequential damages. Implied warranties of merchantability and fitness for a particular purpose on this product are limited in duration to the duration of this warranty.

Some states/countries do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. Some states/countries do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary from state to state and country to country.

Return & Exchange

Shipment of product is as advertised by product. Upon receipt of merchandise inspect product carefully, should you find that the product does not meet your expectations, or satisfaction, contact us at once and tell us your concerns, so we may make every effort to satisfy your purchase.

Instructions for returning items

Please retain the dated sales receipt as evidence of the date of purchase. You will need it for any warranty service. If you bought the product through a dealer, installer, or reseller, you will need to return the product to the point of sale.

E-Mail us, or call us, using the information listed under *"Customer Service Contact Information"* on the following page, for a Return to Manufacturer Authorization (RMA) number. Describe briefly the reasons for your requested return. You must receive an RMA # before you return any goods to us, the RMA # must appear on your return packing label or on the outside of the box, Merchandise without a RMA # will be refused. RMA's are valid for twenty (20) days from date of issuance. All returned merchandise must be shipped in the original packaging. If it is not in the original packaging, ZEKTOR will not be held liable for damage during shipment. Shipments of returns must be prepaid, and we will not accept COD returns.

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